

Research Report 1221



A Field Evaluation of the UH1FS INSTRUCTOR'S GUIDE

Robert N. Isley and Edward J. Miller Seville Research Corporation



ARI FIELD UNIT AT FORT RUCKER, ALABAMA



U. S. Army

Research Institute for the Behavioral and Social Sciences

August 1979

Approved for public release; distribution unlimited.

80 4 9

436

BOC FILE COPY

い

40 A O 8 29

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

A Field Operating Agency under the Jurisdiction of the Deputy Chief of Staff for Personnel

JOSEPH ZEIDNER
Technical Director

WILLIAM L. HAUSER Colonel, U. S. Army Commander

Research accomplished under contract to the Department of the Army

Seville Research Organization

NOTICES

DISTRIBUTION: Primary distribution of this report has been made by ARI. Please address correspondence concerning distribution of reports to: U. S. Army Research Institute for the Behavioral and Social Sciences, ATTN: PERI-P, 5001 Eisenhower Avenue, Alexandria, Virginia 22333.

<u>FINAL DISPOSITION</u>: This report may be destroyed when it is no longer needed. Please do not return it to the U. S. Army Research Institute for the Behavioral and Social Sciences.

<u>NOTE</u>: The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

Unclassified

REPORT DOCUMENTATION		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
Research Report 1221		
A. TITLE (and Subtitio)	19	S. TYPE OF REPORT & PENIOD COVERE
A FIELD EVALUATION OF THE		Letter Report.
UHIFS INSTRUCTOR'S GUIDE		Septemb 78 - March 1079
= 2 2	L	OF PERFORMING ORG. REPORT NUMBER
, 400		TR79-01
7. AUTHOR(a)		GONTRACT OR GRANT NUMBER(4)
Robert N./Isley	(13)	DAHC 19-77-C-0939
Edward J./Miller		
9. PERFORMING ORGANIZATION NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK
Seville Research Corporation	- (1)	AREA & WORK-UNIT NUMBERS
400 Plaza Building	3 (16)	20263743A772
Pensacola, FL 32505	المنتسب	
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT BATE
Director of Training Developments	([])	Aug 79
U.S. Army Aviation Center		MARER OF PAGES
Fort Rucker, AL 36360 14. MONITORING AGENCY NAME & ADDRESS(II dilleren	I from Controlling Office)	15. SECURITY CLASS. (of this report)
U.S. Army Research Institute for		
and Social Sciences	Dona / LVEGI	Unclassified
5001 Eisenhower Avenue, Alexandria	a, VA 22333	15a. DECLASSIFICATION/DOWNGRADING
Approved for public release; distribution (14)		=a. E-TR-79-02
	SEVILLI	5-TR-79-02
14)	SEVILLI	E-TR-71-02 18 ARI
17. DISTRIBUTION STATEMENT (of the abetract entered	SE VILL I	E-TR-71-02 18 ARI 19 RR-122
17. DISTRIBUTION STATEMENT (of the abetract enforced	SE VILL I	E-TR-71-07 18 ARI 19 RR-122
17. DISTRIBUTION STATEMENT (of the abetract entered	SE VILL In Block 20, 11 different from	F-TR-71-07 18) ARI 19) RR-122 rt Rucker.
17. DISTRIBUTION STATEMENT (of the abetract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I	SEVILL In Block 20, If different from	E-TR-71-02 18 ARI 19 RR-122 rt Rucker.
17. DISTRIBUTION STATEMENT (of the abetract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I	SEVILL In Block 20, If different from	F-TR-71-01 Report 18 ARI 19 RR-122 rt Rucker.
17. DISTRIBUTION STATEMENT (of the abetract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I	SEVILL In Block 20, II different from	F-TR-71-02 Report 18 ARI 19 RR-122 rt Rucker.
17. DISTRIBUTION STATEMENT (of the abetract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI II 19. KEY WORDS (Continue on reverse side if necessary as Simulator instructor training Synthetic flight training	SEVILLI In Block 20, II different from Field Unit at Form Instructor Instructor Instructor	F-TR-M9-BY Report) 18 ARI 19 RR-122 rt Rucker.
17. DISTRIBUTION STATEMENT (of the abetract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary as Simulator instructor training Synthetic flight training Simulator training Simulator operator training Simulator operator training	Field Unit at Format Instructor Instructor Operator gu	F-TR-71-01 Report 18 ARI 19 RR-122 rt Rucker. pilot training guides uides
17. DISTRIBUTION STATEMENT (of the abstract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary as Simulator instructor training Synthetic flight training Simulator training Simulator training Simulator operator training 20. ABSTRACT (Continue on reverse side if necessary as	Field Unit at Format Instructor Instructor Operator gu	F-TR-71-02 Report 18 ARI 19 RR-122 rt Rucker. pilot training guides uides
17. DISTRIBUTION STATEMENT (of the abetract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary as Simulator instructor training Synthetic flight training Simulator training Simulator operator training Simulator operator training	In Block 20, if different from the Block 20, if different from the Block number, instructor instructor Operator guid identify by block number)	F-TR-71-02 Report 18 ARI 19 RR-122 rt Rucker. pilot training guides guides guides guides guides guides guides guides guides
17. DISTRIBUTION STATEMENT (of the abetract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary as Simulator instructor training Synthetic flight training Simulator training Simulator operator training 20. ABSTRACT (Continue on reverse side if necessary as This report describes a small	Field Unit at Format Instructor Instructor Operator guid Identify by block number) Instructor Operator guid Identify by block number) I-scale field evaleveloped for use	F-TR-71-02 Report 18 ARI 19 RR-122 rt Rucker. pilot training guides lides aluation of the UHIFS Interpretation instructor
17. DISTRIBUTION STATEMENT (of the abstract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary and side in the structor training simulator instructor training simulator training simulator training simulator operator training 20. ABSTRACT (Continue on reverse side if necessary and in the structor's Guide. The Guide was continued in the structor's Guide.	Field Unit at Format Instructor Instructor Operator guid Identify by block number) I d Identify by block number) I scale field evalueveloped for use (UH1FS) field local	Report 18 ARI 19 RR-122 rt Rucker. pilot training guides rides aluation of the UHIFS Interpretations. The Guide was de-
17. DISTRIBUTION STATEMENT (of the abstract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary and it is simulator instructor training Synthetic flight training Simulator training Simulator training Simulator operator training 20. ABSTRACT (Continue on reverse side if necessary and instructor's Guide. The Guide was opilots at UH-1H flight simulator signed to serve (a) as an informational pilots learning to conduct training	Field Unit at Format in the didentify by block number, Instructor Instructor Operator guid identify by block number, Instructor operator guid identify by block	PROPERTY OF THE PROPERTY OF TH
17. DISTRIBUTION STATEMENT (of the abstract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary and in the structure of the simulator instructor training Synthetic flight training Simulator training Simulator training Simulator operator training 20. ABSTRACT (Continue on reverse side if necessary and interest of the simulator operator training Simulator operator training Simulator operator training Simulator operator training Simulator in the simulator signed to serve (a) as an information of the simulator operator of the simulator operator of the serve (a) as an information of the simulator operator of the serve of the simulator operator of the serve (a) as an information of the serve of th	Field Unit at Format in the didentity by block number, Instructor Instructor Operator guild identity by block number, Inst	PROPERTY OF THE PROPERTY OF TH
17. DISTRIBUTION STATEMENT (of the abstract entered 18. SUPPLEMENTARY NOTES Monitored by James A. Bynum, ARI I 19. KEY WORDS (Continue on reverse side if necessary and in the structure of the simulator instructor training simulator training simulator training simulator operator training 20. ABSTRACT (Continue on reverse side if necessary and in the simulator operator training simulator operator training 21. ABSTRACT (Continue on reverse side if necessary and interest operator in the simulator operator is guide. The Guide was opilots at UH-1H flight simulator signed to serve (a) as an informational pilots learning to conduct training	Field Unit at Format in the didentity by block number, Instructor Instructor Operator guild identity by block number, Inst	PROPERTY OF THE PROPERTY OF TH

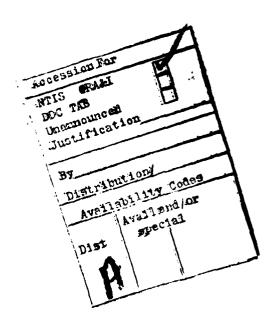
Unclassified SECURITY CLASSIFICATION OF THIS PAGE

SECURITY CLASSIFICATION OF THIS PAGE(When Date Entered)

Item 20 (Continued)

necessary for preparing similar instructor guides for future Army flight simulators.

UHIFS instructors at two field locations were given draft copies of the <u>Guide</u>. In-depth instructor interviews were conducted after the instructors had used the <u>Guide</u> for about 3 months. Instructor comments on the usefulness of the <u>Guide</u> are summarized in the report. Instructors found the <u>Guide</u> satisfactory in all important respects.



A Field Evaluation of the UH1FS INSTRUCTOR'S GUIDE

Robert N. Isley and Edward J. Miller Seville Research Corporation

James A. Bynum, Team Chief

Submitted by:
Charles A. Gainer, Chief
ARI FIELD UNIT AT FORT RUCKER, ALABAMA

Approved by:

Frank J. Harris, Acting Director ORGANIZATIONS AND SYSTEMS RESEARCH LABORATORY

U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES 5001 Eisenhower Avenue, Alexandria, Virginia 22333

Office, Deputy Chief of Staff for Personnel Department of the Army

August 1979

Army Project Number 2Q263743A772

Flight Simulation

Approved for public release; distribution unlimited.

ARI Research Reports and Technical Reports are intended for sponsors of R&D tasks and for other research and military agencies. Any findings ready for implementation at the time of publication are presented in the last part of the Brief. Upon completion of a major phase of the task, formal recommendations for official action normally are conveyed to appropriate military agencies by briefing or Disposition Form.

This report describes a small-scale field evaluation of the UHIFS Instructor's Guide. The Guide was developed by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) at their Field Unit at Fort Rucker, Ala., for use by instrument instructor pilots at UH-lH flight simulator (UHIFS) field locations. The Guide was designed to serve (a) as an information source or text book for instructor pilots learning to conduct training during such operations. The field evaluation described in this report was conducted to determine the extent to which the second of these design intentions has been met and to develop guidance necessary for preparation of similar instructor guides for other Army flight simulators in the future.

ARI research in flight simulator utilization is conducted as an in-house research effort augmented by contracts with organizations selected as having unique capabilities in a specific area. The work reported here was conducted by the Seville Research Corporation under Contract Number DAHC19-77-C-0039. The research was conducted under RDT&E Project 20263743A772, FY 1978 Work Program, in response to requirements of the Director of Training Developments, U.S. Army Aviation Center, Fort Rucker, Ala.

VOSEPH ZEIDNER Technical Director

A FIELD EVALUATION OF THE UHLFS INSTRUCTOR'S GUIDE

BRIEF			

Requirement:

The <u>UHlFS Instructor's Guide</u> was developed to promote effective use of the training capabilities inherent in the UH-lH flight simulator. The purpose of the present project was to determine the extent to which the content, organization, and other aspects of the <u>Guide</u> facilitate its use by instructor pilots.

Procedure:

Draft copies of the <u>UHIFS Instructor's Guide</u> were provided to instructors at Fort Campbell, Kentucky and Fort Hood, Texas in October 1978. In January 1979, instructor comments concerning the perceived usefulness of the <u>Guide</u> were obtained through in-depth interviews at Forts Hood and Campbell.

Findings:

The UHlFS Instructor's Guide was well received by the instructors. In all important particulars the Guide was found to be satisfactory to the participating instructors. No suggestions for changes in either organization or content were received. The instructors strongly recommended that the Guide be made available to all instructor pilots learning to use the UHlFS.

Utilization of Findings:

The Guide will be made available for distribution to the field.

A FIELD EVALUATION OF THE UHIFS INSTRUCTOR'S GUIDE

CONTENTS

	Page
INTRODUCTION	1
Background Purpose Approach	1 1 2
Selection of training sites to be surveyed Development of Guide orientation training Initial site visits and conduct of orientation training Preparation and conduct of follow-up interviews	2 2 2 3
DISCUSSION OF FINDINGS	4
Frequency and Manner of Use Information Content, Readability and Organization Usefulness of Simulator Guides to Other Aviator Groups	4 4 5
UH1FS instructor trainees Individual aviators Other Army simulator instructors	5 5 6
CONCLUSIONS AND RECOMMENDATIONS	6
APPENDIXES	8

INTRODUCTION

Background

The <u>UHIFS Instructor's Guide</u> has been prepared by the Army Research Institute (ARI) for use in conjunction with a new program of instruction (POI) being developed by the U.S. Army Aviation Center (USAAVNC). When completed, the new POI will be a largely self-contained, multi-media, self-instructional training package exportable to Army field sites having the UH-1H flight simulator (UHIFS). The <u>UHIFS Instructor's Guide</u> is the first portion of the new POI to be completed. The <u>Guide</u> is intended to serve as an information source or text book in the new POI and as a job aid or reference for instructor pilots (IPs) conducting training operations in the UHIFS. Use of the <u>Guide</u> is intended to enhance the instructor's ability to employ effectively the training features available in the simulator.

Prior to Army-wide distribution of the <u>Guide</u>, a small scale field evaluation of its strengths and weaknesses as a reference document was conducted. The evaluation was based on information obtained during in-depth interviews of users of the <u>Guide</u> conducted at two UHIFS field sites. This report describes the conduct of that evaluation and discusses the findings appertaining thereto.

Purpose

The primary purpose of the field evaluation was to determine the usefulness of the <u>Guide</u> to job incumbents (instructor pilots) and to identify changes which would increase its effectiveness and utility. This formation could then be used to revise the <u>Guide</u> as necessary prior to its being distributed Army wide. A secondary purpose of the evaluation was to develop guidance for developers of similar guides for the CH47FS, AH1FS, UH60FS, and other Army simulators.

For a description of the new POI, see Isley, R. N., Miller, E. J., and Spears, W. D. <u>Development of a Course Outline for Training UHIFS Instrument Instructor Pilots</u>. Technical Report TR-78-01, Seville Research Corporation, Pensacola, Fla., March 1978.

Approach

The approach followed in the conduct of the field evaluation of the <u>Guide</u> involved five activities: (a) selection of training sites to be surveyed; (b) development of <u>Guide</u> orientation training; (c) initial site visits and conduct of orientation training; (d) preparation and conduct of follow-up interviews; and (e) compilation of findings and report preparation. The major aspects of the first four of these activities are described below. This report is the result of the fifth activity.

Selection of training sites to be surveyed. In conjunction with the Contracting Officer's Technical Representative (COTR), two UHIFS locations were selected for survey during this evaluation. The selections were based on such factors as the size of the instructor pilot population at each site, the availability and interest of local personnel to participate in the project, and the length of time the UHIFS had been in service at each location. On the basis of these considerations, as well as time and travel constraints, Fort Hood, Texas, and Fort Campbell, Kentucky, were selected.

Development of Guide orientation training. In this activity the content of the training to orient instructors for use of the Guide that was to be conducted at each site was developed, and necessary training materials were prepared. The orientation sessions were intended to familiarize participating flight instructors with the Guide's contents and proposed manner of use and to solicit their assistance in evaluating the extent to which the Guide's design goals had been met. The orientation training sessions consisted of three major parts: (a) a project overview and an explanation of the purpose of the visit; (b) a discussion of the Guide and directed practice in how to use it; and (c) an explanation of the kinds of information which would be sought in follow-up interviews which would be conducted in approximately three months. A more detailed description of the orientation training sessions developed during this project activity is contained in Appendix A.

Initial site visits and conduct of orientation training.

Orientation training sessions were conducted at Forts Campbell and Hood during the period 10-13 October 1978. Eight instructor pilots attended the sessions at Fort Campbell and eleven instructor pilots

attended at Fort Hood. Each participating instructor was given a draft copy of the <u>Guide</u> for his personal use and told the project team would return in approximately three months to conduct follow-up interviews.

Background information concerning the experience levels of the participating instructor pilots, collected during the orientation sessions, is summarized in Appendix B. In general, the participating instructors can be characterized as follows: (a) average instructor pilot experience was six years; (b) average UHIFS experience was 2½ years; (c) average hours logged as an IP in the UHIFS was about 172; (d) average frequency of use of the simulator was about 12 hours per month; (e) the majority of the IPs received their initial instructor training at Fort Rucker; (f) only three instructors had received a formal course of instruction in utilization of the UHIFS; and (g) the instructors at both locations conduct the same types of instrument training, i.e., initial issue, proficiency/refresher and IP training in the simulator.

Preparation and conduct of follow-up interviews. A protocol for the conduct of the follow-up interviews was prepared and is shown in Appendix C. Interviews were conducted at Fort Campbell and Fort Hood by a member of the project staff during the period 8-12 January 1979. At that time, the UHIFS Instructor's Guide had been available for use by the instructors interviewed for approximately three months.

At Fort Campbell, eight of the ten instructors provided <u>Guides</u> in October were interviewed in January.² At Fort Hood, ten of the eleven <u>Guide</u> recipients were interviewed.³ The findings from these 18 interviews are discussed in the next section of this report.

¹ Two additional copies of the <u>Guide</u> were left at Fort Campbell for instructors who were unable to attend the training session. They were subsequently oriented to its use by one of the instructors who did attend the training session.

² Of the remaining two, one was no longer in the Army and one was unavailable for interview.

³ One instructor was participating in a field exercise and was thus unavailable.

DISCUSSION OF FINDINGS

The kinds of comments made by the instructors at Fort Campbell were essentially the same as those made by the Fort Hood group and, unless otherwise noted, are treated here as being from a single group. The comments received during the instructor interviews are synthesized and discussed below in relation to (a) the frequency and manner in which the <u>Guide</u> was used; (b) information content, readability and organization of the <u>Guide</u>; and (c) perceived usefulness of this or similar guides to other groups of aviators.

Frequency and Manner of Use

Seventeen of the eighteen instructors interviewed reported at least some use of the <u>Guide</u> following the orientation training session in October, 1978. The individual reporting no further use of the <u>Guide</u> also stated he had not instructed in the UHIFS during the previous three months. Overall utilization rates for the simulator during the period October-January dropped somewhat from those shown in Appendix B, primarily due to the reduced levels of training normally associated with the holiday season. Frequency of <u>Guide</u> utilization by the instructors who did conduct training during the period was probably not greatly influenced by the seasonal reduction in training. It is considered unlikely that the kinds of comments about the <u>Guide</u> reported here would have been different had greater utilization of the simulator taken place during the evaluation period.

Of the instructors reporting use of the <u>Guide</u>, such usage varied from "read only" to "used routinely." Use of the <u>Guide</u> as a reference document was the most frequently cited manner of use. Flight planning, checkride planning, IP training, and console operator training were also mentioned as types of usage. When used as a reference, the main body of the <u>Guide</u> was typically consulted to answer a specific question about the simulator. For flight planning usage, the supplement was the most frequently consulted portion of the <u>Guide</u>. In IP and console operator training, the <u>Guide</u> was made available to the instructors' students as additional courseware. All such uses were reported as being satisfactory.

Information Content, Readability and Organization.

All of the instructors who reported using the <u>Guide</u> found it informative. Even instructors highly experienced in the UHIFS

reported that the <u>Guide</u> contained information about the simulator that they had not known previously. (Feature descriptions and suggested training uses were cited as being particularly informative.) In general, information sought was easily found, was provided in an understandable form and in sufficient detail to satisfy the inquirers. No suggestions for additional information to be incorporated into the <u>Guide</u> were received, and no organizational changes were recommended. Two instructors did speculate as to whether a subject index would be a meaningful addition. In pursuing this line of thought, however, these instructors agreed a subject index would be overly redundant, given the Glossary and Index of Uses already present in the <u>Guide</u>. The looseleaf construction of the <u>Guide</u> was specifically cited as being useful not only to facilitate keeping the <u>Guide</u> current but also to allow the instructor to insert his own notes and comments at appropriate places.

Usefulness of Simulator Guides to Other Aviator Groups

UHIFS instructor trainees. The respondents in this project were unanimous in reporting the opinion that a handbook, such as the UHIFS Instructor's Guide, would have been especially useful to them when they were initially learning to use the simulator. The majority of the instructors participating in this project had received no formal training in how to use the simulator and had obtained their knowledge of it largely through trial-and-error practice on the job. All felt this task would have been much easier for them had they had the Guide when they were first introduced to the simulator. All recommended that the Guide be incorporated in future simulator instructor training programs, and a frequently heard suggestion was that it would also be useful to include the Guide in instrument flight examiner (IFE) courses since checkrides are now often conducted by these individuals in the simulator.

Individual aviators. The instructors were about evenly split with regard to the <u>Guide's</u> usefulness to individual aviators using the simulator for proficiency training. In general, the feeling was that, while the <u>Guide</u> contained useful background information for the individual aviator, the current proficiency training programs at Forts Hood and Campbell are so highly structured that individual aviators would have little occasion to manage their own simulator training periods and thus would not need, or be able to use, much of the information available in the <u>Guide</u>. It was frequently suggested that the <u>Guide</u> could be made available to interested individual aviators at each UHIFS facility but not be made an item of issue to them.

Other Army simulator instructors. The UHIFS is the first of several flight simuators the Army will be fielding in future years. The CH47FS, a simulator for the CH-47 Chinook helicopter is already in service at Fort Rucker, and production models of this device are expected to reach the field in calendar year 1982. Simulators for the AH-1 Cobra, the UTTAS, and the AAH are also planned. The instructors in the present project were unanimous in the view that instructor guides for these new simulators would not only be useful, but very probably would be essential because of the complexity of these devices relative to the UHIFS. The aircraft being simulated in these devices are more complex than the UH-1H and, unlike the UH1FS, the new devices will have visual display systems. In addition, these new devices have no external operator station like that of the UH1FS, and therefore the IP conducting training in these devices will need to know a great deal more about simulator operations than does the instructor in the UHIFS. The instructors also felt quite strongly that guides for these devices should be made available at the time the equipment is first introduced to the field.

CONCLUSIONS AND RECOMMENDATIONS

The <u>UHIFS Instructor's Guide</u> was well received by the instructors participating in this project. Further, the reluctance of a number of instructors to surrender their draft copies of the <u>Guide</u> at the conclusion of the interview provides additional testimony to its perceived usefulness. In all important particulars, the <u>Guide</u> appears to be satisfactory "as is" and does not require further revision prior to publication in final form. It is therefore recommended that necessary arrangements for Army publication be initiated.

The instructor comments described above also support the notion that the <u>Guide</u> would be a useful addition to current IP method of instruction (MOI) training programs involving the UHIFS. All of the instructors interviewed said they would like to have had the <u>Guide</u> when they were initially learning to use the UHIFS. This finding suggests that one avenue for primary distribution of the <u>Guide</u> could be as a handout to IPs enrolled in UHIFS MOI courses. Such distribution could be effected through the Flight Simulator Division at Fort Rucker, which already distributes simulator information to the field, or through other Army channels as appropriate. Secondary distribution might be to all instructor pilots currently using the UHIFS. Distribution to individual Army aviators is not recommended, although reference copies should be available at each UHIFS site for use by individual aviators.

Finally, as noted in the discussion of findings, the instructors surveyed in this project felt quite strongly that simulator guides for the CH47FS, AH1FS and other new flight simulators would probably be essential for instructors learning to use those devices. It is therefore recommended that such guides be developed and that they be available at the time each device is initially introduced to the field. Should the Army undertake the development of other simulator instructor guides, the UH1FS Instructor's Guide could serve as a model for such development to the extent those simulators and associated training requirements correspond to the UH1FS and its training requirements.

APPENDIXES

٩рр	endix	4	Page
	Α.	Field Evaluation of the UH1FS Instructor's Guide: Orientation Training Session	9
	В.	Field Evaluation of the UH1FS Instructor's Guide: Summary of Instructor Pilot Data Sheets	14
	С.	Field Evaluation of the UH1FS Instructor's Guide: Procedures for Follow-Up Interviews	16

APPENDIX A

FIELD EVALUATION OF THE UH1FS INSTRUCTOR'S GUIDE: ORIENTATION TRAINING SESSION

Introduction

The purpose of the orientation training session is to introduce the UHIFS Instructor's Guide to UHIFS flight instructors participating in an evaluation of its usefulness. The Guide has been prepared by the Army Research Institute (ARI) as a part of a new program of instruction (POI) being developed by the U.S. Army Aviation Center. When completed, the new POI will be a largely self-contained, multimedia, self-instructional training package exportable to Army field sites having the UHIFS. The UHIFS Instructor's Guide is the first portion of the new POI to be completed and is being made available to the field in advance of other course materials. The orientation training session, described herein, is intended to familiarize flight instructors with the Guide's contents and proposed manner of use and to solicit their assistance in evaluating the extent to which design goals have been met.

The orientation training session will consist of three major parts, the first of which will include a project overview and an explanation of the purpose of the visit. The second part of the session will be devoted to a discussion of the <u>Guide</u> and some directed practice in how to use it. The third portion of the training session will address the kinds of information that will be sought during interviews with the instructors after they have had an opportunity to use the <u>Guide</u> for approximately three months. These training activities are outlined in more detail in the paragraphs that follow.

Project Overview and Purpose of Visit

This portion of the training session will provide the participating IPs with background information concerning how and why the <u>Guide</u> has been developed and the purpose of the field evaluation. An appropriate statement of the project background is as follows: "The U.S. Army Aviation Center (USAAVNC) has been tasked to develop standardized training and a program of instruction for utilization of the UH-1 flight simulator (UHIFS) synthetic flight training system for world wide training support. As a part of that development, the Army Research Institute has developed a draft UHIFS Instructor's Guide

which is to be used in that program of instruction, or in some cases as a stand-alone reference document, to guide the instructor pilot to the training features and uses of the UHIFS."

Presentation of the project background information is considered important to the establishment of an appropriate "set" or context within which the IPs will be asked to evaluate the Guide. The main quals of this presentation are to ensure that the participating IPs recognize what the UH1FS Instructor's Guide is, as well as what it is not, and what the purpose of the field evaluation is. Important points are that: (a) the Guide is a job aid, but is not an operator's manual for the UH1FS; (b) the Guide is an adjunct to other training media, not a single volume containing all there is to know about the UH1FS; (c) the Guide is a handbook for IPs, not UH1FS console operators; and (d) information from the field evaluation will be used to improve the Guide and to develop guidance for the preparation of similar documents for other Army simulators. This information will be derived from IP comments following approximately three months use of the Guide, at which time the project staff will return to conduct indepth interviews concerning individual IP experiences in using the Guide and to collect the draft copies of the Guide.

Discussion and Practice Use of the UH1FS Instructor's Guide

This portion of the orientation session will cover a detailed description of the Guide and a discussion of how it can be used, and it will afford an opportunity for the participating IPs to become familiar with the Guide's organization and contents through directed practice in its use. The specific practical exercises to be employed will, in large measure, be determined by the background characteristics of the IPs themselves and their entry level familiarity with the UH1FS. Information concerning IP tenure, how IP training was received, how UH1FS familiarization training was received, approximate number of UH1FS IP hours logged, type of training conducted in the UHIFS and frequency of use of UHIFS will be obtained from each IP and used to determine subsequent training session activities. (A data sheet on which this information can be recorded has been prepared and is attached.) For example, an experienced UH1FS IP, trained under a formal program of instruction, would likely be more knowledgable concerning device capabilities and training features than would an inexperienced IP trained informally on the job. (It will be important during these activities to avoid arousing resentment among the IPs by appearing to challenge their expertise in conducting training in the UHIFS.) It is possible that even highly experienced UHIFS IPs may

benefit from the ideas about training techniques derived from their initial reading of the <u>Guide</u> and may find little need to refer to it subsequently. The training session could contribute to this possible early benefit through emphasis on such techniques. Nevertheless, all participating IPs will be provided sufficient opportunity to peruse the <u>Guide</u> to familiarize themselves with its contents and organization as described below.

- 1. All IPs will be asked to read the introduction and then to select one or two feature descriptions, preferably ones with which they may be less familiar, and read the appropriate write-ups for the selected features in the main body of the <u>Guide</u>. Any ensuing questions will be answered and discussed as appropriate.
- 2. Next, IP attention should be directed to the Index of Uses beginning on page 89 of the <u>Guide</u>. The IPs will be asked to scan the Index and identify any listed uses with which they may be unfamiliar or have not had occasion to consider. Ensuing questions will be discussed. In directing this discussion, IP experiences with (and without) the simulator and their needs for help in the training process will be solicited. The use of UHIFS instructional features in dealing with the problem trainer or slow learner will be emphasized, e.g., the use of the record/playback and slow time features of the UHIFS.
- 3. Next, IP attention will be directed to the Supplement to the <u>Guide</u> and time will be allowed for a brief perusal of the <u>organization</u> and contents of the Supplement. The purpose of the Supplement will be reviewed and ensuing questions answered. Use of the Supplement as an aid in flight planning and as an in-cockpit reference during training will be emphasized. This will complete the practical exercise portion of the orientation session.

<u>Information Desired in Follow-up Interviews</u>

The second secon

In this portion of the orientation training session, IPs will be advised of the sorts of questions that will be asked of them during the in-depth interviews to be conducted after they have had the Guide

for approximately three months. Specifically, they will be asked to comment on such things as frequency of use, portions of the <u>Guide</u> found useful or not useful, and the manner in which they used the <u>Guide</u>. They will also be asked for suggestions for any changes, additions, or expansions which would enhance the usefulness of the <u>Guide</u>. Preliminary coordination for the return visit will be accomplished, and the orientation training session will be terminated. Only previously trained IPs will be interviewed during the subsequent visitno substitutes will be allowed. All copies of the <u>Guide</u> will be collected during the return visit.

Guid	le No	•	

Field Evaluation of <u>UH1FS Instructor's Guide</u> Instructor Pilot Data Sheet

A CONTRACTOR OF THE PROPERTY O

The information indicated below should be obtained from each instructor pilot (IP) participating in the evaluation. The information will be obtained during the orientation training session.

1.	Name
2.	Organization3. Duty Phone
4.	How long have you been an instructor pilot?
5.	Where and how was IP training received? Fort Rucker MOI
	Course, equivalency training at unit,
	other (specify)
6.	How was UH1FS familiarization/orientation training received?
	Fort Rucker NET Team Local OJT Formal COI
	Informal COI
7.	How long have you been using the UH1FS?
8.	Approximately how many hours have you logged as an IP in the
	UH1FS?
9.	What type of training do you typically conduct in the UH1FS?
	Proficiency/refresher, initial issue
	other (specify)
10.	How often do you use the UH1FS, e.g., hours per day, week, month?

APPENDIX B

FIELD EVALUATION OF THE UH1FS INSTRUCTOR'S GUIDE:

SUMMARY OF INSTRUCTOR PILOT DATA SHEETS

The data summarized below were extracted from the Instructor Pilot Data Sheet included in Appendix A and completed during the orientation training session. The data are intended to be descriptive only and no statistical tests were performed to determine the significance of differences between the two groups of participating instructors. The item numbers shown refer to the question numbers on the Instructor Pilot Data Sheet.

IP Experience Level (How long have you been an IP, Item #4)

Location	<u>N</u>	Range	Mean
Fort Campbell	8	1 month - 9 years	4.3 years
Fort Hood	10	4 - 10 years	7.4 years
Total	18	1 month - 10 years	6.0 years

UH1FS Experience (How long using UH1FS, Item #7)

Location	<u>N</u>	Range	<u>Mean</u>
Fort Campbell	8	1 - 5.50 years	2.75 years
Fort Hood	11	1 - 4 years	2.09 years
Total	19	1 - 5.50 years	2.53 years

UH1FS IP Hours Logged (How many hours have you logged as an IP, Item #8)

Location	<u>N</u>	Range	<u>Mean</u>
Fort Campbell	7	0 - 850 hours	252.13 hours
Fort Hood	11	25 - 400 hours	123.18 hours
Total	18	0 - 850 hours	172.22 hours

UH1FS Frequency of Use (How often do you use UH1FS, Item #10)

Location	<u>N</u>	Range	<u>Mean</u> (Hours per Month)
Fort Campbell	7	2 - 24	7.05
Fort Hood	10	2 - 36	16.10
Total	17	2 - 36	12.37

Instructor Pilot Training (Where and how was IP training received, Item #5)

Location	<u>N</u>	Ft. Rucker	Unit Training	<u>Other</u>
Fort Campbell	8	6	2	0
Fort Hood	11	8	1	2
Total	19	14	3	2

UH1FS Familiarization Training (How was UH1FS familiarization training received, Item #6)

Location	<u>N</u>	Ft. Rucker NET Team	Local OJT	Formal COI	Informal COI
Fort Campbell	8	0	4	1	3
Fort Hood	11	0	6	2	3
Total	19	0	10	3	6

Type Training Conducted in UH1FS, Item #9

Location	Proficiency/ Refresher	Initial Issue	Other (IP Training, Checkrides)
Fort Campbell	Yes	Yes	Yes
Fort Hood	Yes	Yes	Yes

APPENDIX C

FIELD EVALUATION OF THE UH1FS INSTRUCTOR'S GUIDE

Procedures for Follow-Up Interviews

The procedures that will be followed and the line of inquiry that will be pursued in the conduct of follow-up interviews concerning utilization of the draft <u>UHIFS Instructor's Guide</u> are outlined below. The interviews will be one on one, informal, and open-ended. The interviewer will use the space provided to record respondent's answers and to make explanatory notes and comments. Additional notes and comments will be made on the back of this form, or on additional blank pages, as required.

Data sheet update:

- a. The interviewer will go over each individual's data sheet with him to clarify and/or verify answers. (See margin notes on each form.)
- b. The interviewer will update the frequency of use of UH1FS during previous three months (questions 8-10 on data sheet).
- 2. Line of inquiry concerning use of the <u>UHIFS Instructor's Guide</u>: (Separately for main body and supplement.)

a.	Did the I	P have o	ccasion 1	to use	the <u>Gu</u>	ide?	Yes	No
	If not, d didn't ha					t use	UH1FS,	reassigned
								

	ue the following in it consulted?			onthly)
Describe the used), e.g.,	context in which flight planning,	it was in cock	consulted	(how was it reference?
			····	
				
				
				
	<u> </u>			

When co seeking	nsulted, ?	did	it	provide	the	informat	ion the	IP.	was
						 			
			·						
	··········								
	**************************************	······································			· · · · · · · · · · · · · · · · · · ·				· · · · · · · · · · · · · · · · · · ·
									
Was the	informa	tion	pre	esented	in ar	underst	andable	for	rm?
									
									
									
									
							منحد نو ہی باسی		

.											
General System Description											
							·				
											
eatur	re D	escr	pt	ions	;						
			•								
											
ndex	of	Uses_									
											
									····		
ilossa	ary_	 -			····						
	•										
iupp1 e	emen	t							·		
						-					
									····		
	Index	Index of	Teature Descri	Feature Descript Index of Uses	Teature Descriptions Index of Uses Glossary	Feature Descriptions	Teature Descriptions	Teature Descriptions	Teature Descriptions	Feature Descriptions	Feature Descriptions

					·			
			·					
							 .	
								
								
Does th aviator	e IP th	ink the , profic	<u>Guide</u> ciency	would be pilots,	useful using t	to inc	lividua S?	al
Does th aviator	e IP th	ink the	<u>Guide</u> ciency	would be pilots,	useful using t	to inc	lividu	al
Does th aviator	e IP th	ink the , profic	<u>Guide</u> ciency	would be pilots,	useful using t	to inc	lividu S?	a 1
Does th	e IP th	ink the	Guide	would be pilots,	e useful using t	to inc	dividu	al
Does th aviator	e IP th	ink the	Guide	would be pilots,	e useful using t	to inc	dividu	al
Does th aviator	e IP th	ink the	Guide	would be pilots,	e useful using t	to inc	lividu	al
Does th aviator	e IP th	ink the	Guide	would be pilots,	e useful using t	to inc	lividu	al
Does th aviator	e IP th	ink the	Guide	would be pilots,	e useful using t	to inc	lividu	al

How	did	the	ΙP	like	the	organ	izati	on	of	the	<u>Guide?</u>	
												
												
												
												
	uoet i	one	for						_	-		
Sugg	Jest i	ons	for	chai	 nge?_				_	-		
Sugg	jest i	ons	for	chai					_	-		
Sugg	jesti	ons	for									
Sugg	jesti	ons	for									
Sugg	jest i	ons	for									
Sugg	gesti	ions	for									
Sugg	jesti	ons	for									
Sugg	jesti	ons	for									

	the usefulness of the <u>Guide</u> ?	
•		
		 -
•	Does the IP think a similar type <u>Guide</u> would be useful t learning to use the CH-47 or AH-1 simulator? Why or why	:0] / no
		
		 .
•		
	Additional comments	
		~
		
		

3. At the end of the interview, the interviewer will express his appreciation for the individual's participation in the evaluation and will collect the interviewee's copy of the draft Guide.

DISTRIBUTION

ARI Distribution List

```
2 HOUSACDEC, Ft Ord, ATTN: Library
4 OASD (M&RA)
2 HQDA (DAMI CSZ)
                                                                    1 HOUSACDEC, Ft Ord, ATTN: ATEC - EX -E - Hum Factors
  HODA (DAPE PBR)
                                                                    2 USAEEC, Ft Benjamin Harrison, ATTN: Library
1 HODA (DAMA AR)
                                                                    1 USAPACDC, Ft Benjamin Harrison, ATTN: ATCP. HR
                                                                    1 USA Comm-Elect Sch. Ft Moninguth, ATTN: ATSN - EA
1. HODA IDAPE HRE-POI
                                                                    1 USAEC, Ft Monmouth, ATTN: AMSEL CT HDP
1 HODA (SGRD-ID)
                                                                   1 USAEC, Ft Monmouth, ATTN: AMSEL -PA P
  HODA (DAMI-DOT-C)
  HODA (DAPC PMZ-A)
                                                                    1 USAEC, Ft Monmouth, ATTN: AMSEL: SI--CB
  HODA (DACH-PPZ A)
                                                                    1 USAEC, Ft Monmouth, ATTN: C, Faci Dev Br
  HQDA (DAPE HRE)
                                                                    1 USA Materials Sys Anal Agov, Abendeen, ATTN: AMXSY P
  HQDA (DAPE MPO C)
                                                                    1 Edgewood Arsenal, Aberdeen, ATTN; SAREA BL H
  HODA (DAPE DW)
                                                                     USA Ord Ctr & Sch. Aberdeen, ATTN: ATSL-TEM C
1 HODA (DAPE HRL)
                                                                    2 USA Hum Engr Lab, Aberdeen, ATTN, Library/Dir
  HODA (DAPE CPS)
                                                                     USA Combat Arms Ting Bd., Ft Benning, ATTN: Ad Supervisor
1 HODA (DAFD MEA)
                                                                    1 USA Infantry Hum Risch Unit, Ft Benning, ATTN: Chief
1 HODA (DARD ARS-P)
                                                                    1 USA Infantry 8d, Ft Benning, ATTN: STEBC TE T
1 HODA (DAPC PAS-A)
                                                                    1 USASMA, Ft Bliss, ATTN: ATSS | LRC
  HODA (DUSA OR)
                                                                    1 USA Air Def Sch. Ft Bliss, ATTN: ATSA CTD ME
  HODA (DAMO ROR)
                                                                    1 USA Air Def Sch, Et Bliss, ATTN. Tech Lib
1 HODA (DASG)
                                                                    1 USA Air Def Bd Ft Bliss, ATTN: FILES
1. HODA (DA10-Ph
                                                                    1 USA Air Def Bd, Ft Bliss, ATTN: STEBD: PO

    Cheet, Consult Div (DA OTSG), Adelphi, MD

                                                                    1 USA Cind & General Stl College, Ft Leavenworth, ATTN 1 ib
1 Mil Asst. Hum Res, ODDR&F, OAD (E&LS)
                                                                    1 USA Crid & General Stf College, Ft Leavenworth, ATTN ATSW -SE II
1 HO USARAL, APO Seattle, ATTN: ARAGP R
                                                                    1. USA Crnd & General Stf College, Et Leavenworth, ATTN, Ed Advisor
                                                                   1. USA Combined Arms Cribt Dev Act, Et Leuvinworth, ATTN: DepCdr
1 HQ First Army, ATTN; AFKA-OFTI
2 HO Fifth Army, Ft Sam Houston
                                                                    1 USA Combined Arms Cmbt Dev Art, Ft Leavenworth, ATTN: CCS
1 Dir. Army Stf Studies Ofc, ATTN: OAVCSA (DSP)
                                                                     USA Combined Arms Cmbt Dev Act, Ft Leavenworth, ATTN: ATCASA
1. Oh: Onet of Stf, Studies Ofc
                                                                     USA Combined Arms Ciribt Dev Act, Ft Leavenworth, ATTN; ATCACO -F
LECSPER, ALTH. CPS OCP
                                                                    1. USA Combined Arms Cmbi Dev Act, Et Leavenworth, ATTN: ATCACC - CL
                                                                   1 USAFCOM, Night Vision Lab, Ft Belyon, ATTN: AMSEL-NV-SD
  The Army Lib, Pentagon, ATTN: RSB Chief
1. The Army Lib, Pentagon, ATTN: ANRAL
                                                                   3 USA Computer Sys Cmrl, Ft Belvoir, ATTN: Tech Library
  Ofc, Asst Sect of the Army (R&D)
                                                                   1 USAMERDC FLBelvoir, ATTN: STSFB DQ
                                                                    1 USA Eng Sch, Ft Belvoir, ATTN: Library
  1ech Support Ofc, OJCS
  USASA, Arlunton, ATTN: IARD-T
                                                                    1 USA Topographic Lab, Ft Belvoir, ATTN: ETL TD-S
1 USA Rich Ofc, Durham, ATTN: Life Sciences Dir.
                                                                    1 USA Topographic Lab, Ft Belvoir, ATTN: STINFO Center
2. USARIEM, Natick, ATTN: SGRD UE CA
                                                                   1 USA Topographic Lab, Ft Belvoir, ATTN: ETL. GSL.
T. USATTC, Et Clayton, ATTN: 51LTC MO A
                                                                   1. USA Intelligence Cn & Sch, F) Husehisca, ATTN: CTD. MS.
1. USAIMA, Ft Brago, ALTN: ATSU CTD/OM
                                                                   1 USA Intelligence Ctr & Sch, Ft Huachica, ATTN: ATS - CTD - MS
                                                                   1 USA Intelligence Cti & Sch, Ft Huachuca, ATTN ATSI-TE
1. USAIMA, Fr Bragn, ATTN: Marquat Lib
1. US WAC Ctr & Sch, Ft McClellan, ATTN: Lib.
                                                                    1 USA Intelligence Cir & Sch. Ft Huachica, ATTN: ATSI: TEX. GS
1. US WAC Ctr & Sch, Ft McCleffan, ATTN: Tog Do
                                                                    1. USA Intelligence Cti & Sch, Ft Huachida, ATTN: ATSI. CTS- OR
1 USA Quartermaster Sch. Ft Lie, ATTN: ATSM-TE
                                                                    1 USA Intelligence Cti & Sch. Ft Huachuca, ATTN ATSI CTD DT
1. Intelligence Material Dev Ofc. EWL, Ft Holabird.
                                                                   1. USA Intelligence Cir. & Sch. Ft Huachuca, ATTN: ATSI - CTD - CS.
                                                                     USA Intelligence Ctr & Sch, Ft Huachuca, ATTN DAS/SRD
1 USA SE Signal Sch, Ft Gordon, ATTN. ATSO EA
1. USA Chaptain Cri & Sch, Fr Hamilton, ATTN: ATSC-TE RD
                                                                   1. USA Intelligence Cir & Sch. Fr Huachiga, ATTN: ATSI: TEM
1 USATSCH, Fr Eustis, ATTN: Educ Advisor
                                                                   1. USA Intelligence Cir. & Sch. Ft Huachuca, ATTN: Library
1. USA War College, Carlisle Barracks, ATTN: Lib
                                                                   1 CDR, HQ Ft Huachuca, ATTN: Tech Ref Div
2 WRAIR, Neuropsycholicy Div.
                                                                   2 CDR, USA Electronic Prvg Grd, ATTN_STEFP_MT~S
1 DLI, SDA, Montein,
                                                                    1 HQ, TCATA, ATTN: Tech Library
                                                                    1 HO, TCATA, ATTN: AT CAT-OP-O, Ft Hood
1 USA Concept Anal Agry, Bethesda, ATTN, MOCA MR
                                                                   1 USA Recruiting Cmd, Ft Sheridan, ATTN: USARCPM-P
1 USA Concept Anal Agoy, Bethesda, ATTN: MOCA-JF
                                                                    1 Semor Army Adv., USAFAGOD/TAC, Elgin AF Aux Fld No. 9
1 USA Archic Test Ctr. APO Seattle, ATTN: STEAC PL-MI
1 USA Arctic Test Ctr, APO Seattle, ATTN: AMSTE-PL-TS
                                                                    1 HQ, USARPAC, DCSPER, APO SF 96558, ATTN: GPPE SE
                                                                    1 Stimson Lib, Academy of Health Sciences, Ft Sam Houston
1 USA Armament Cmrl. Redstone Arsenal, ATTN: ATSK-TEM
                                                                   1 Marine Corps Inst., ATTN: Dean-MCI
1 USA Armament Cmd, Rock Island, ATTN: AMSAR-TDC
                                                                    1 HQ, USMC, Commandant, ATTN: Code MTMT
1 FAA-NAFEC, Atlantic City, ATTN: Library
1 FAA NAFEC Atlantic City, ATTN: Human Engr Br
                                                                    1 HQ, USMC, Commandant, ATTN: Code MPI 20:28
                                                                   2 USCG Academy, New London, ATTN: Admission
1 FAA Aeronautical Cti. ()klahoma City, ATTN: AAC 44D
                                                                   2 USCG Academy, New London, ATTN: Library
2 USA Fld Arty Sch. Ft Sill, ATTN: Library
1 USA Armor Sch, Ft Knox, ATTN: Library
                                                                    1 USCG Training Ctr, NY, ATTN: CO
1 USA Armor Sch, Ft Knox, ATTN: ATSB-DEF
                                                                    1 USCG Training Ctr., NY, ATTN Educ Svc Ofe.
LUSA Armor Sch, Et Phox, ATTN: ATSB DT TP
                                                                    1 USCG, Psychol Res Br, DC, ATTN GP 1/62
                                                                    1 HO Mid-Range Br. MC Det, Quantico, ATTN P&S Div
1 USA Armor Sch. Et Knox, ATTN ATSB-CD-AD
```

- 1. US Marine Corps Liaison Ofc. AMC, Alexandria, ATTN: AMCGS:-I
- 1 USATRADOC, Ft Monroe, ATTN: ATRO-ED
- 6 USATRADOC, Ft Monroe, ATTN: ATPR AD
- USATRADOC, Ft Monroe, ATTN: ATTS: EA
- 1 USA Forces Cmd, Ft McPherson, ATTN: Library
- 2 USA Aviation Test Brl, Ft Rucker, ATTN: STEBG-PO USA Agoy for Aviation Safety, Ft Rucker, ATTN: Library
- 1 USA Agcy for Aviation Safety, Ft Rucker, ATTN: Educ Advisor
- USA Aviation Sch. Ft Rucker, ATTN: PO Drawer O
- 1 HQUSA Aviation Sys Cmd, St Louis, ATTN: AMSAV-ZDR
- 2. USA Aviation Sys Test Act., Edwards AFB, ATTN: SAVIE. T
- 1. USA Air Del Sch, Ft Blist, ATTN: ATSA IFM
- 1. USA Air Mobility Rich & Dev Lab, Moffett Fld, ATTN: SAVDL. AS
- USA Aviation Sch, Res Tng Mgt, Ft Rucker, ATTN: ATST -T -RTM
- 1 USA Aviation Sch, CO, Ft Rucker, ATTN: ATST--D--A
- HO, DARCOM, Alexandria, ATTN: AMXCD -TL
- 1 HQ, DARCOM, Alexandria, ATTN: CDR

- US Military Academy, West Point, ATTN: Serials Unit
- 1 US Military Academy, West Point, ATTN: Ofc of Milt Litriship
- 1 US Military Academy, West Point, ATTN: MAOR
- 1. USA Standardization Gp, UK, FPO NY, ATTN: MASE --GC
- 1 Ofc of Naval Risch, Arlington, ATTN: Code 452 3 Ofc of Naval Rsch, Arlington, ATTN: Code 458
- 1 Ofc of Naval Rsch, Arlington, ATTN: Code 450
- 1 Ofc of Naval Rsch, Arlungton, ATTN: Code 441
- 1. Naval Aerospic Med Res Lab, Pensacola, ATTN: Acous Sch Div
- F Naval Aerospe Med Res Lab, Pensacola, ATTN: Code L51
- 1. Naval Aerospic Med Res Lab, Pensacola, ATTN: Code L5
- 1 Chief of NavPers, ATTN: Pers-OR
- NAVAIRSTA, Norfolk, ATTN: Safety Ctr
- 1 Nav Oceanographic, DC, ATTN: Code 6251, Charts & Tech
- 1. Center of Naval Anal, ATTN: Doc Ctr.
- 1 NavAirSysCom, ATTN: AIR -5313C
- 1 Nav BuMed, ATTN: 713
- NavHelicopterSubSqua 2, FPO SF 96601
- AFHRL (FT) Williams AFB
- 1 AFHRL (TT) Lowry AFB
- 1 AFHRL (AS) WPAFB, OH
- 2 AFHRL (DOJZ) Brooks AFB
- 1 AFHRL (DOJN) Lackland AFB
- 1 HOUSAF (INYSD)
- 1 HQUSAF (DPXXA)
- AFVTG (RD) Randolph AFB
- 3 AMRL (HE) WPAFB, OH
- 2 AF Inst of Tech, WPAFB, OH, ATTN: ENE/SL
- 1 ATC (XPTD) Randolph AFE
- 1. USAF AeroMed Lib, Brooks AFB (SUL. 4), ATTN: DOC SEC
- 1 AFOSR (NL), Arlington
- 1. AF Log Cmrl, McClellan AFB, ATTN: ALC/DPCRB
- 1. Air Force Academy, CO, ATTN: Dept of Bel Scn.
- 5 NavPers & Dev Ctr, San Diego
- 2 Navy Med Neuropsychiatric Rich Unit, San Diego
- 1. Nav Electronic Lab, San Diego, ATTN; Res Lab
- 1 Nav TringCin, San Diego, ATTN: Coile 9000- Lib
- 1. NavPostGraSch, Monterry, ATTN: Code 55Aa
- 1 NavPostGraSch, Monterny, ATTN, Code 2124 1 NavTriigEquipCtr, Orlando, ATTN: Tech Lib
- 1 US Dept of Labor, DC, ATTN: Manpower Admin
- 1. US Dept of Justice, DC, ATTN: Drug Enforce Admin
- 1 Nat Bur of Standards, DC, ATTN: Computer Info Section
- 1 Nat Clearing House for MH Info, Rockville
- 1 Denver Federal Ctr, Lakewood, ATTN: BLM
- 12 Defense Documentation Center
- 4 Dir Psych, Army Hq, Russell Ofcs, Canberra
- 1 Scientific Advsr, Mil Bd, Army Hq, Russell Ofcs, Canberra
- 1 Mil and Air Attache, Austrian Embassy
- 1. Centre de Recherche Des Facteurs, Humaine de la Defense Nationale, Brussels
- 2. Canadian Joint Staff Washington.
- 1. C/Air Staff, Royal Canadian AF, ATTN. Pers Std Anal Br
- 3 Chief, Canadian Def Risch Staff, ATTN: C/CRDS(W)
- 4. Bertish Def Staff, British Embassy, Washington

- 1 Def & Civil Inst of Enviro Medicine, Canada
- 1 AIR CRESS, Kensington, ATTN: Info Sys Bi
- 1 Militaerpsykologisk Tjeneste, Copenhagen
- Military Attache, French Embassy, A. TN: Doc Sec
- 1 Medecin Chef, C.E.R.P.A. Arsenal, Toulon/Naval France
- 1 Prin Scientific Off, Appl Hum Engr Rsch Div, Ministry of Defense, New Orthi
- 1 Pers Risch Ofc Library, AKA, Israel Defense Forces
- 1 Ministeris van Defensie, DOOP/KL Afd Sociaal Psychologische Zaken, The Hague, Netherlands